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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,796	05/18/2006	Akira Osada	290100US2PCT	3471

22850 7590 10/10/2007

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EXAMINER
SCHINDLER, DAVID M

ART UNIT	PAPER NUMBER
2862	

NOTIFICATION DATE	DELIVERY MODE
10/10/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/579,796	OSADA ET AL.	
	Examiner	Art Unit	
	David M. Schindler	2862	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3 and 5-11* is/are rejected.

7)☒ Claim(s) *2 and 4* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 May 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/18/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 5-8, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirama et al. (Hirama) (4,427,940).

As to Claim 1,

Hirama discloses a plurality of flaw detectors disposed near the wire rope ((Figure 7A) and (Column 5, Lines 50-68) and (Column 6, Lines 1-16)), each of the flaw detectors has a first

and a second magnetic pole of different polarity ((Figures 2 and 3) and (Column 2, Lines 56-68)), and a magnetic sensor of a U-shape disposed between the first and second magnetic poles ((Figures 2 and 3) and (Column 3, Lines 9-55)).

Hirama does not disclose each of the U-shaped magnetic sensors has a bottom radius in the range of 2mm to 5mm, a difference between the bottom radius of the magnetic sensor and a half of the nominal diameter of the wire rope being equal to or less than 1.5 mm, and a distance between the sidewalls of the U-shaped magnetic sensors of the adjacent flaw detectors in plan view is equal to or more than 2mm.

However, it would have been obvious to a person of ordinary skill in the art to change the relative dimensions of Hirama to include the feature of each of the U-shaped magnetic sensors has a bottom radius in the range of 2mm to 5mm, and the feature of a distance between the sidewalls of the U-shaped magnetic sensors of the adjacent flaw detectors in plan view is equal to or more than 2mm because it has been held that where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. See MPEP 2144.04 and In

Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984),cert. denied, 469 U.S. 830, 225 USPQ 232 (1984).

Furthermore, it would have been obvious to a person of ordinary skill in the art to optimize the range of values for the distance between the bottom radius of the magnetic sensor and the nominal diameter of the wire rope to include a difference between the bottom radius of the magnetic sensor and a half of the nominal diameter of the wire rope being equal to or less than 1.5 mm as it has been held that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) (MPEP 2144.05).

As to Claim 5,

Hirama discloses securing members for holding and securing the respective flaw detectors on predetermined positions of an elevator shaft or machineroom ((Figure 1) and (Column 2, Lines 42-55)).

As to Claim 6,

Hirama discloses the securing members for holding the flaw detectors are disposed near a hoist (Figure 1).

As to Claim 7,

Hirama discloses the securing members hold the flaw detectors at positions where a side surface of the wire rope which is in contact with a groove of a driving sheave of the hoist and bottom surfaces of the magnetic sensors of the flaw detectors are opposed to each to other ((Figures 1, 2, 3, and 7) and (Column 3, Lines 9-55)).

As to Claim 8,

Hirama does not disclose securing members for hold and securing the flaw detectors on an elevator car. However, it would have been obvious to a person of ordinary skill in the art to rearrange the location of the detectors to include securing members for hold and securing the flaw detectors on an elevator car in order to position the detectors at a desired location (MPEP 2144.04).

As to Claim 11,

Hirama discloses each of the U-shaped magnetic sensors convers at least a semi-circumference or more of the wire rope (Figure 3).

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirama et al. (Hirama) (4,427,940) in view of Yamashita (6,756,759).

As to Claim 3,

Hirama does not disclose a filter for filtering to eliminate noises other than signals showing a flaw of the wire rope from signals that are output from the magnetic sensors of the plurality of flaw detectors, wherein after filtering the noises, all of the rest signals are summed up.

Yamashita discloses filtering a signal and then providing it to an adder.

It would have been obvious to a person of ordinary skill in the art to modify Hirama to include a filter for filtering to eliminate noises other than signals showing a flaw of the wire rope from signals that are output from the magnetic sensors of the plurality of flaw detectors, wherein after filtering the noises, all of the rest signals are summed up given the above disclosure and teaching of Yamashita in order to remove unwanted signals from the detector outputs.

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirama et al. (Hirama) (4,427,940) in view of Hickman (5,828,213).

As to Claim 9,

Hirama does not disclose means for converting analogue signals, that are output from the magnetic sensors of the plurality of flaw detectors, to digital signals and storing the digital signals.

Hickman discloses means for converting analogue signals, that are output from the magnetic sensors of the plurality of flaw detectors, to digital signals and storing the digital signals ((Abstract) and (Figure 12)).

It would have been obvious to a person of ordinary skill in the art to modify Hirama to include means for converting analogue signals, that are output from the magnetic sensors of the plurality of flaw detectors, to digital signals and storing the digital signals as taught by Hickman in order to be able to provide the signals to a digital computer for future retrieval.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirama et al. (Hirama) (4,427,940) in view of Hamelin et al. (Hamelin) (5,804,964).

Hirama does not disclose a device for displaying a sum of signals that are output from the magnetic sensors of the plurality of flaw detectors.

Hamelin discloses a device for displaying a sum of signals that are output from the magnetic sensors of the plurality of flaw detectors (Abstract).

It would have been obvious to a person of ordinary skill in the art to modify Hirama to include a device for displaying a sum of signals that are output from the magnetic sensors of the

plurality of flaw detectors as taught by Hamelin in order to make the information readily available to a user (Abstract).

Allowable Subject Matter

7. Claims 2 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is an examiner's statement of reasons for allowance:

As to Claim 2,

The primary reason for the allowance of claim 2 is the inclusion of the adjacent flaw detectors are staggered relative to a longitudinal direction of the wire rope. It is these features found in the claim, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

As to Claim 4,

The primary reason for the allowance of claim 4 is the inclusion of means for eliminating signals under a threshold value from signals that are output from the magnetic sensors of

the plurality of flaw detectors, wherein after eliminating the signals under the threshold value, all the rest signals are summed up. It is these features found in the claim, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David M. Schindler whose telephone number is (571) 272-2112. The examiner can normally be reached on Monday-Friday (8:00AM-5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on (571) 272-2210. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

David M. Schindler
Examiner
Art Unit 2862

DMS

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